VIP X1600 XF

Network Video Server – Base

BOSCH

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1   Preface

1.1   About this Manual

This manual is intended for persons responsible for the installation and operation of the VIP X1600 XF. International, national and any regional electrical engineering regulations must be followed at all times. Relevant knowledge of network technology is required. The manual describes the installation and operation of the VIP X1600 XF base.

1.2   Conventions in this Manual

In this manual, the following symbols and notations are used to draw attention to special situations:

CAUTION!
This symbol indicates that failure to follow the safety instructions described may endanger persons and cause damage to the unit or other equipment.
It is associated with immediate, direct hazards.

NOTICE!
This symbol refers to features and indicates tips and information for easier, more convenient use of the unit.

1.3   Intended Use

The VIP X1600 XF network video server is intended for use with CCTV systems and serves to transfer video and control signals via data networks (Ethernet LAN and Internet). The optional modules for installation determine the range of functions. Encoder modules (senders) and decoder modules (receivers) are available. The encoder modules each contain RAM memory for short-term recording of connected cameras. Audio signals can also be transmitted with the audio versions of the encoder modules. Various functions can be triggered automatically by incorporating external alarm sensors. Other applications are not permitted.
In the event of questions concerning the use of the unit which are not answered in this manual, please contact your sales partner or:
Bosch Sicherheitssysteme GmbH
Robert-Koch-Straße 100
85521 Ottobrunn
Germany
www.boschsecurity.com

1.4 EU Directives

The VIP X1600 XF network video server complies with the requirements of EU Directives 89/336 (Electromagnetic Compatibility) and 73/23, amended by 93/68 (Low Voltage Directive).

1.5 Rating Plate

For exact identification, the model name and serial number are inscribed on the rating plate on the bottom of the VIP X1600 XF base and on the rating plates on the circuit boards of the modules. Please make a note of this information before installation, if necessary, so as to have it to hand in case of questions or when ordering spare parts.

2   Safety Information

2.1   Electric Shock Hazard

–   Never attempt to connect the unit to any power network other than the type for which it is intended.
–   Use only power supply units approved by Bosch Security Systems.
–   Never open the housing of the power supply unit.
–   Always install a module in the appropriate VIP X1600 XF base housing only.
–   If a fault occurs, disconnect the VIP X1600 XF from the power supply and from all other units.
–   Install the power supply and the unit only in a dry, weather-protected location.
–   If safe operation of the unit cannot be ensured, remove it from service and secure it to prevent unauthorized operation. In such cases, have the unit checked by Bosch Security Systems.
    Safe operation is no longer possible in the following cases:
    –   if there is visible damage to the unit or power cables,
    –   if the unit no longer operates correctly,
    –   if the unit has been exposed to rain or moisture,
    –   if foreign bodies have penetrated the unit,
    –   after long storage under adverse conditions, or
    –   after exposure to extreme stress in transit.

2.2   Installation and Operation

–   The relevant electrical engineering regulations and guidelines must be complied with at all times during installation.
–   Relevant knowledge of network technology is required to install the unit.
–   Before installing or operating the VIP X1600 XF, make sure you have read and understood the documentation for the modules in use and for any other equipment connected to it, such as cameras or monitors. The documentation contains important safety instructions and information about permitted uses.
–   Perform only the installation and operation steps described in this manual. Any other actions may lead to personal injury, damage to property or damage to the equipment.

2.3   Maintenance and Repair

–   Never open the housing of a VIP X1600 XF base. The unit does not contain any user-serviceable parts. Remove only the supplied cover when installing a module.
–   Do not change any components in a VIP X1600 XF base or a module. The units do not contain any user-serviceable parts.
–   Never open the housing of the power supply unit. The power supply unit does not contain any user-serviceable parts.
–   Ensure that all maintenance or repair work is carried out only by qualified personnel (electrical engineers or network technology specialists).

3   Product Description

3.1   Scope of Delivery

– VIP X1600 XF base
– Mounting kit for installation in 19-inch racks
– Self-adhesive elastic bumpers
– Quick Installation Guide
– Product CD with the following content:
  – Quick Installation Guide
  – Manual
  – System Requirements document
  – Further documentation on Bosch Security Systems products
  – Configuration Manager
  – MPEG ActiveX control
  – Player and Archive Player
  – DirectX control
  – Microsoft Internet Explorer
  – Sun JVM
  – Adobe Acrobat Reader

NOTICE!
Check that the delivery is complete and in perfect condition. Have your unit checked by Bosch Security Systems if you detect any damage.

3.2   System Requirements for Setup

There are no additional requirements to be met for setting up the VIP X1600 XF base after installation is complete. Requirements for setting up the installed modules can be found in the module manuals.

3.3   Configuration and Operation

The configuration and operation of a VIP X1600 XF is carried out exclusively via the installed modules. Furthermore, the VIP X1600 XF base does not require any configuration.
The configuration and operation of the installed modules is described in the module manuals.

3.4   Overview of Functions

3.4.1   Network Video Server Housing

The VIP X1600 XF base is a special housing for the installation of up to four standalone modules. Encoder modules (senders), for the connection of up to four cameras each, and decoder modules (receivers), for the connection of up to four monitors each, are available. For example, a VIP X1600 XF with four encoder modules can make up to 16 independent video channels available. Combinations of encoder modules and decoder modules are also possible. The use of existing networks means that integration with CCTV systems or local networks can be achieved quickly and easily.

The modules are designed for installation in the VIP X1600 XF base. Installing the units is a quick and easy operation that does not require any additional tools. All modules are hot swappable and can be exchanged while the system is running.

3.4.2   Network Interfaces

The integrated switch functionality of the VIP X1600 XF base allows the ETH1, ETH2, ETH3 and SFP interfaces to be used alternatively, redundantly or for cascading other units.

3.4.3   Redundant Power Supply

The VIP X1600 XF base allows one or two power supply units to be connected, thereby offering the option of a monitored redundant power supply. In the event of power supply unit failure, the VIP X1600 XF can be supplied by the second power supply unit without interruption.

3.5   Connections and Displays
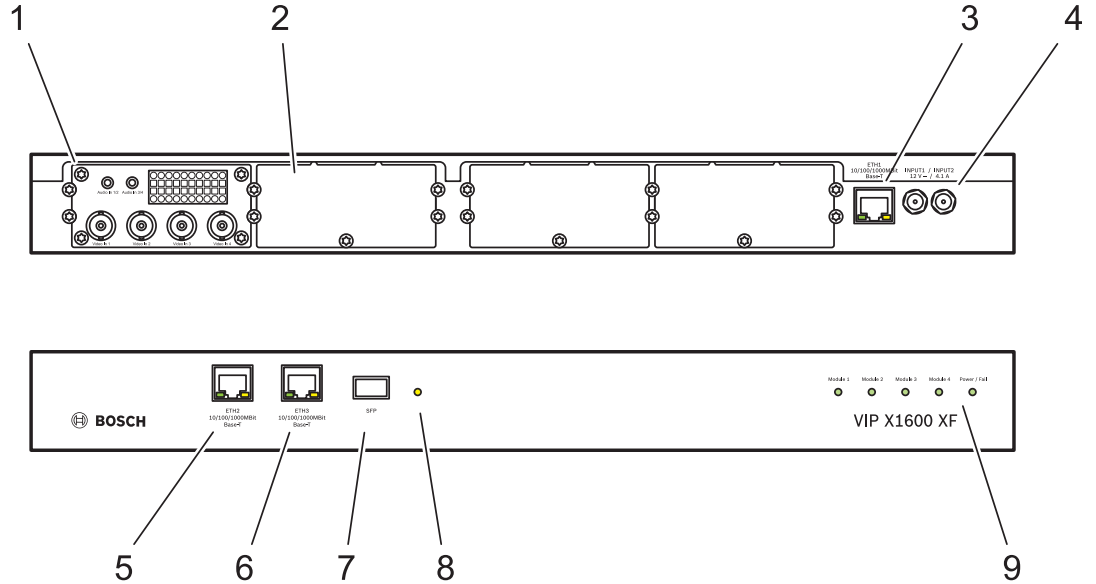
1	Installed module
2	Cover for vacant slot

3   **ETH1** RJ45 socket
          for connection to the network or an iSCSI system

4   Sockets for connecting one or two power supply units

5   **ETH2** RJ45 socket
          for connection to the network or an iSCSI system

6   **ETH3** RJ45 socket
          for connection to the network or an iSCSI system

7   **SFP** slot
          for mini-GBIC module

8   **SFP** LED
          lights up yellow when the unit is connected via **SFP**

9   LEDs, status information for the modules and the VIP X1600 XF base

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> **NOTICE!**
> For more information about the LEDs, see *Section 6.2 LEDs*, page 21.

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4   Installation

4.1   Preparations

The VIP X1600 XF base is designed for installation in a switch cabinet. Mounting the unit in a 19-inch rack using the installation material supplied is a quick and easy operation.

It is also possible to operate this as a desktop unit. The four elastic bumpers included in the scope of delivery ensure a non-slip support.

CAUTION!

The unit is designed for indoor operation.

Select a suitable location for installation that guarantees to meet the environmental conditions. The ambient temperature must be between 0 and +50 °C (+32 and +122 °F). The relative humidity must not exceed 95% (non-condensing).

The VIP X1600 XF generates heat during operation. During installation, please note the maximum heat value of 170 BTU/h. Ensure that there is adequate ventilation and enough clearance between the unit and heat-sensitive objects or equipment.

Please ensure the following installation conditions:

– Do not install the unit close to heaters or other heat sources. Avoid locations exposed to direct sunlight.
– Allow sufficient space for running cables.
– Ensure that the unit has adequate ventilation. Bear the total heat output in mind, particularly when installing multiple units in a switch cabinet.
– When making connections, use only the cables supplied or use appropriate cables immune to electromagnetic interference.
– Position and run all cables so that they are protected from damage, and provide adequate cable strain relief where needed.
– Avoid impacts, blows and severe vibrations, as these can irreparably damage the unit.

4.2   Installing Modules

Installation of the different modules in the VIP X1600 XF base is described in the relevant Quick Installation Guides and the Installation and Operating Manuals. It is also possible to install, remove and exchange modules during operation.

CAUTION!

Ensure that Slot 1 is always populated by a module, even when modifying the installation. Malfunctions may occur when the VIP X1600 XF is switched on without a functional module in Slot 1.

4.3   Installing in a Switch Cabinet

4.3.1   Preparations

The VIP X1600 XF is set up for installation in a 19-inch rack. The necessary installation equipment is included in the scope of delivery.

CAUTION!

When installing in a switch cabinet, ensure that there is sufficient ventilation for the unit. There must be at least 5 cm (1.97 in.) of free space to the left and right of the unit and at least 10 cm (3.94 in.) at the rear.

The VIP X1600 XF generates heat during operation. During installation, please note the maximum heat value of 170 BTU/h.

When mounting additional units, direct contact with the VIP X1600 XF is permitted, provided that the surface temperature of the adjacent units does not exceed +50 °C (+122 °F).

When installing in a switch cabinet, ensure that the screw joints are free of tension and subject to as little mechanical stress as possible. Ensure that the unit and the power supply units have sufficient grounding.

4.3.2   Installing and Connecting the VIP X1600 XF

CAUTION!

Only use power supply units approved by Bosch Security Systems.

1. Prepare the switch cabinet in such a manner that you are easily able to insert the VIP X1600 XF directly at the installation point.
2. Place the cage nuts in the corresponding drillings or spaces in the switch cabinet frame.
3. Lift the VIP X1600 XF into the switch cabinet frame and insert the fastening screws together with the washers.
4. Tighten the screws one after the other and then check once more that all the screws are tight.
5. Connect one or two power supply units to the sockets on the rear of the housing and hand tighten the coupling nuts for the plug.

4 ×
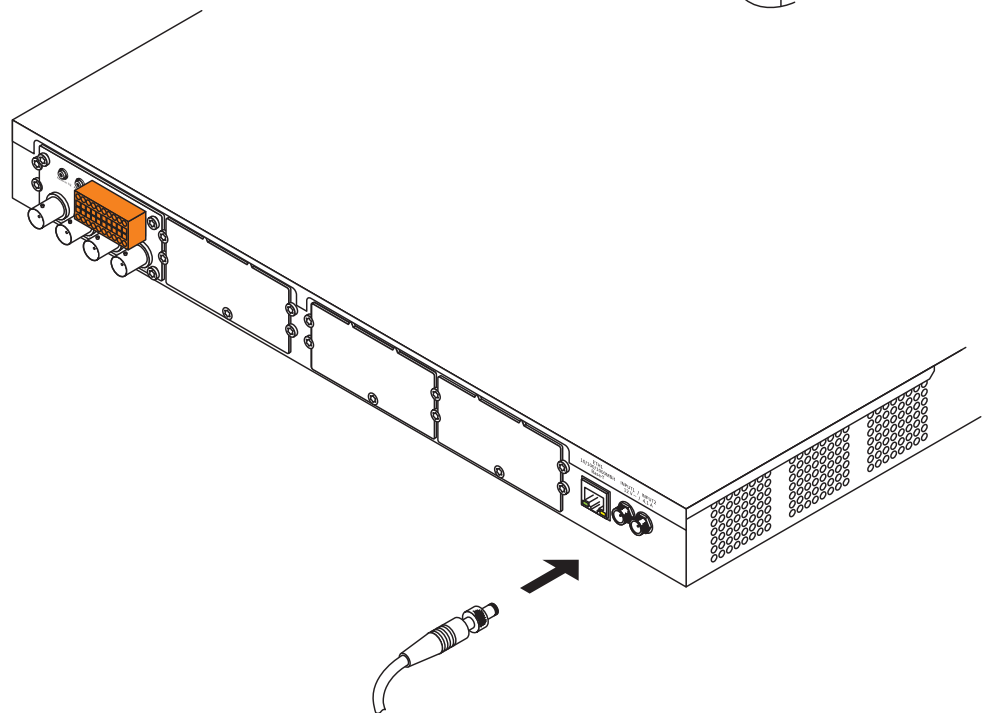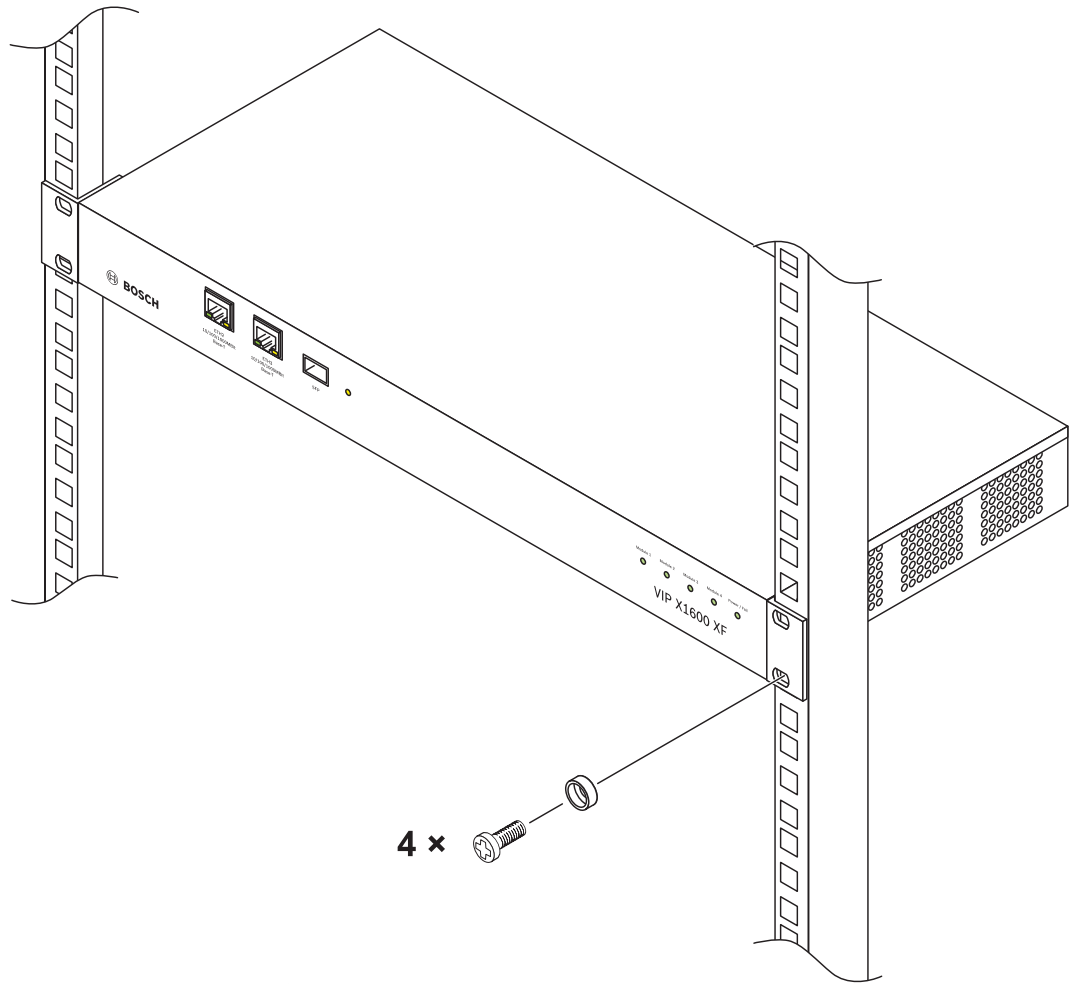
4.4   Connections

4.4.1   Network

You can connect the VIP X1600 XF to a 10/100/1000 Base-T network using a standard UTP category 5 cable with RJ45 plugs. The Ethernet interfaces can be used to create one or more redundant connections to the network.

(i) **NOTICE!**
You cannot create a connection to a second network.

1.   Connect the VIP X1600 XF to the network via the **ETH1**, **ETH2** or **ETH3** socket.
2.   Connect the VIP X1600 XF to a redundant switch or hub on the same network via a free **ETH1**, **ETH2** or **ETH3** socket.

4.4.2   Direct iSCSI Connection

You can connect the VIP X1600 XF directly to an iSCSI system via a free **ETH1**, **ETH2** or **ETH3** interface. This connection is an alternative to using the Ethernet interfaces as a redundant network connection. Use a UTP category 5 network cable with RJ45 plugs for a direct connection to an iSCSI system.

(i) **NOTICE!**
You can obtain a list of compatible iSCSI systems from your supplier or directly from Bosch Security Systems. This list is constantly being updated and extended.

4.5   Power On/Power Off

4.5.1   Power Supply

The VIP X1600 XF does not have a power switch. Power is provided once one or two separate power supply units have been installed. Connect the VIP X1600 XF to a power supply unit and plug this into the mains. The unit is now ready for use. The VIP X1600 XF does not come supplied with a power supply unit.

CAUTION!

Use only power supply units approved by Bosch Security Systems.

Where necessary, use suitable equipment to ensure that the power supply is free from interference such as voltage surges, spikes or voltage drops.

Do not connect the VIP X1600 XF to the power supply until all other connections have been made.

The unit is ready for operation after the VIP X1600 XF has been connected to the power supply and the mounted modules have been initialized.

The operational state of each module is indicated by an LED on the front panel of the VIP X1600 XF.

If a network connection has been set up correctly, the corresponding LEDs on the RJ45 sockets **ETH1**, **ETH2** or **ETH3** light up. Flashing LEDs signal that data packages are being transmitted over the network. In the case of a redundant network connection, or a direct connection to an iSCSI system, these signals can also be seen on the LEDs of all RJ45 sockets in use.

NOTICE!

For more information about the LEDs, see *Section 6.2 LEDs*, page 21.

5 Maintenance and Upgrades

5.1 Testing the Network Connection

You can use the **ping** command to check the connection between two IP addresses. This allows you to test whether a unit in the network is active.

1. Open the DOS command prompt.
2. Type **ping** followed by the IP address of the unit.

If the unit is found, the response appears as **Reply from ...** followed by the number of bytes sent and the transmission time in milliseconds. If not, the unit cannot be accessed over the network. This might be because:

– The VIP X1600 XF is not correctly connected to the network. Check the cable connections in this case.
– The module is not correctly integrated into the network. Check the IP address, subnet mask and gateway address.

5.2 Unit Reset

You can use the Factory Reset button to individually restore each module to its original settings. It is not possible to reset the VIP X1600 XF base.

5.3 Repairs

CAUTION!
Do not change any components in the modules or the VIP X1600 XF base. The unit does not contain any user-serviceable parts.

Ensure that all maintenance or repair work is carried out only by qualified personnel (electrical engineers or network technology specialists). In case of doubt, contact your dealer's technical service center.

5.4 Transfer and Disposal

The VIP X1600 XF, the VIP X1600 XF base or a module should only be passed on together with this Installation and Operating Manual.
Your Bosch product is designed and manufactured with high-quality materials and components which can be recycled and reused.

This symbol means that electrical and electronic equipment, at their end-of-life, should be disposed of separately from your household waste.
In the European Union, there are separate collection systems for used electrical and electronic products. Please dispose of this equipment at your local community waste collection/ recycling center.

6   Appendix

6.1   Troubleshooting

If you are unable to resolve a malfunction, please contact your supplier or system integrator, or go directly to Bosch Security Systems Customer Service.

> **NOTICE!**
> In the *Troubleshooting* chapter of the Installation and Operating Manual for each module, you will find a detailed table that is intended to help you identify the causes of malfunctions and correct them where possible.

6.2   LEDs

The VIP X1600 XF network video server is equipped with a number of LEDs that show the operating status and can give indications of possible malfunctions:

6.2.1   RJ45 Sockets 10/100/1000 Base-T

Green LED lights up:	10 MB network connection established.
Green LED flashes:	Data transmission via 10 MB network connection.
Green and orange LEDs light up:	100 MB network connection established.
Green and orange LEDs flash:	Data transmission via 100 MB network connection.
Orange LED lights up:	1 GB network connection established.
Orange LED flashes:	Data transmission via 1 GB network connection.

6.2.2   SFP

Does not light up:	No connection.
Lights up yellow:	Connection established.
Flashes yellow:	Data being transmitted.

6.2.3   Module 1 / Module 2 / Module 3 / Module 4

Does not light up:	Slot not occupied.
Lights up green:	Module is switched on.
Flashes green:	The module is being accessed.
Lights up red:	Startup in progress.
Flashes red:	Module is faulty, for example following failed firmware upload.

6.2.4   Power / Fail

Does not light up:	VIP X1600 XF is switched off.
Lights up green:	Startup complete, VIP X1600 XF is operational.
Flashes red:	Defect in fans or redundant power supply unit.

7   Specifications

7.1   VIP X1600 XF Base

Operating voltage	12 V DC, redundant
Power consumption	49.2 W with full equipment
LAN interfaces	3 × Ethernet 10/100/1000 Base-T, automatic adjustment, half/full duplex, RJ45
SFP slot	1 × 1 Gbps, for mini-GBIC modules
Displays	5 × LED (status modules, operation/error), 2 × LED (network connection, data transmission) on every LAN interface 1 × LED (SFP connection, data transmission)
Thermal value	Max. 170 BTU/h
Operating conditions	Temperature: 0 to +50 °C / +32 to +122 °F, relative humidity: 0 to 95%, non-condensing, elevation 0 to 3,000 m / 1.86 miles
Approvals	IEC 60950-1:2001; EN 55103-1; EN 55130-4; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3; FCC 47 CFR Chapter 1 Part 15
Dimensions (H × W × D)	44 × 440 × 210 mm / 1.73 × 17.32 × 8.27 in, including BNC module connections
Weight	Approx. 4 kg / 8.82 lb with full equipment